# VPCF1 Series

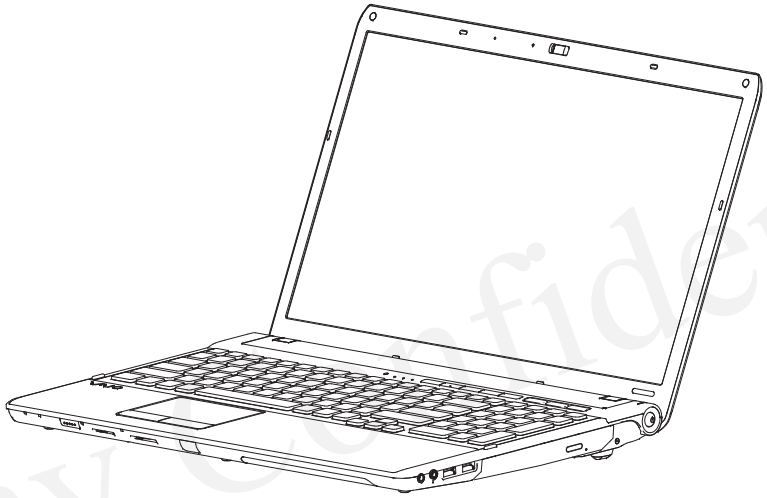
## SERVICE MANUAL

### Ver.6-2011L

**Revision History**

| Area | Model | Lineup |
|---|---|---|
| Japanese | Japanese | VPCF127FJ/W<br>VPCF128FJ/B<br>VPCF129FJ/BI<br>VPCF12AFJ*<br>VPCF12AGJ*<br>VPCF12AHJ* |
| American | US<br>Canadian | VPCF121FX/B<br>VPCF121FX/H<br>VPCF121GX/B<br>VPCF122FX/B<br>VPCF122FX/H<br>VPCF123FX/B<br>VPCF123FX/H<br>VPCF125FX/B<br>VPCF125FX/H<br>VPCF126FM/B<br>VPCF127FX/B<br>VPCF127FX/H<br>VPCF129*<br>VPCF1290S*<br>VPCF12AFM/H |
| | Latin | VPCF120FL/BI<br>VPCF1290L* |
| | Quebec | VPCF120FD/B<br>VPCF121FD/B<br>VPCF127FD/B |
| European | AEP/UK | VPCF12C5E*<br>VPCF12E1E/H<br>VPCF12E1E/W<br>VPCF12E1R/H<br>VPCF12M0E/B<br>VPCF12M1E/H<br>VPCF12M1R/H<br>VPCF12S1E/B<br>VPCF12S1R/B<br>VPCF12Z1E/BI<br>VPCF12Z1R/BI |
| Asian/Oceania/ South Africa | International | VPCF127HG/BI |

*: CTO Model



Sony Confidential

VAIO

- Design and specifications are subject to change without notice.

## PERSONAL COMPUTER

SONY®

9-890-802-06

**Information in this document is subject to change without notice.**

Sony, VAIO and CLIE are trademarks or registered trademarks of Sony. Microsoft, Windows, Windows Media, Outlook, Bookshelf and other Microsoft products are trademarks or registered trademarks of Microsoft Corporation in the United States and other countries. The word Bluetooth and the Bluetooth logo are trademarks of Bluetooth SIG, Inc. AMD, the AMD logo, other AMD product names and combinations thereof are trademarks of Advanced Micro Devices, Inc. Intel Inside logo, Pentium, Celeron and Core are trademarks or registered trademarks of Intel Corporation. Transmeta, the Transmeta logo, Crusoe Processor, the Crusoe logo and combinations thereof are trademarks of Transmeta Corporation in the USA and other countries. Graffiti, HotSync, PalmModem, and Palm OS are registered trademarks, and the Hotsync logo and Palm are trademarks of Palm, Inc. or its subsidiaries. (M) and Motrola are trademarks of Motrora, Inc. Other Motrola products and services with (R) mark like Dragomball are the trademarks of Motrola, Inc.

All other names of systems, products and services in this manual are trademarks or registered trademarks of their respective owners. In this manual, the (TM) or (R) mark are not specified.

Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 60°C (140°F) or incinerate. Dispose of used battery promptly. Keep away from children.

CAUTION: Changing the back up battery.

- Overcharging, short circuiting, reverse charging, multilation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.

The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

# Service and Inspection Precautions

## 1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

## 2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the ⚠ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

## 3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

## 4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

## 5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

## 6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270°C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

**ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!**

**LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANSCE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.**

# TABLE OF CONTENTS


Section Title Page

**CHAPTER1. BLOCK DIAGRAM**
1-1.VPCF1 Series…… 1-1
(to 1-1)

**CHAPTER2. FRAME HARNESS DIAGRAM**
2-1.VPCF1 Series (TOP)…… 2-1
2-2.VPCF1 Series (BOTTOM)…… 2-2
(to 2-2)

**CHAPTER3. EXPLODED VIEWS AND PARTS LIST**
Note…… 3-2
Screws
S-1. Screws…… 3-3
Palmrest
P-1. Palmrest…… 3-4
Main Board
M-1. Main Board…… 3-5
Bottom
B-1. Bottom…… 3-6
Cabinet Cover
C-1. Cabinet Cover…… 3-7
ODD
D-1. ODD…… 3-8
HDD
H-1. HDD…… 3-9
LCD
L-1. LCD…… 3-10
Accessories
A-1. Accessories…… 3-11
DIP Switch…… 3-12
(to 3-12)

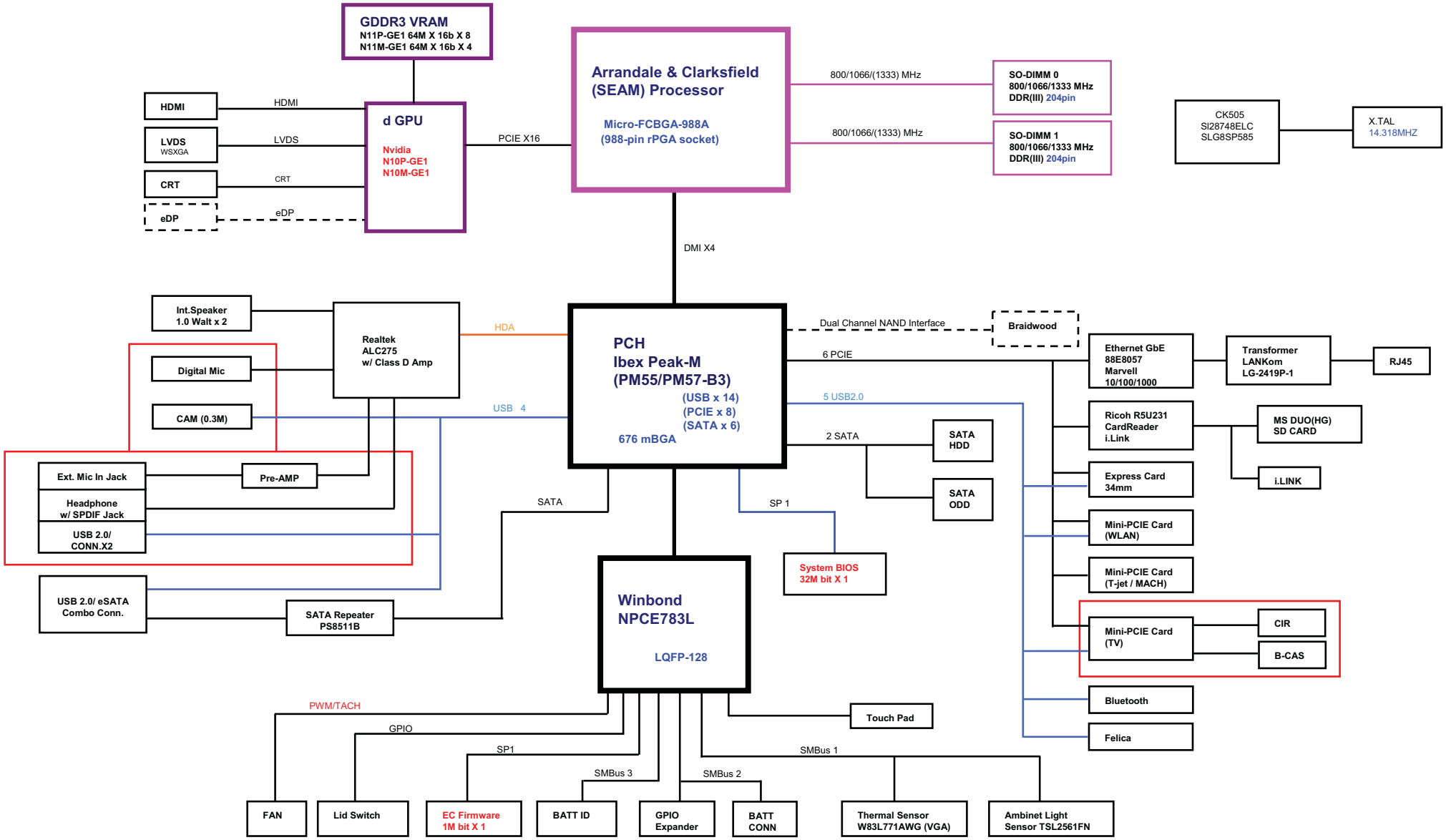
Section Title Page

**CHAPTER4.OTHERS**
4-1. Replacing the CPU …… 4-1
4-2. Holding Method of Motherboard…… 4-2
(to 4-2)


- SPECIFICATIONS are listed on page 3-1 of “CHAPTER3. EXPLODED VIEWS AND PARTS LIST.
- History of the changes is shown as the “Revision History” at the end of this data.

# CHAPTER1.
# BLOCK DIAGRAM

## 1-1.VPCF1 Series



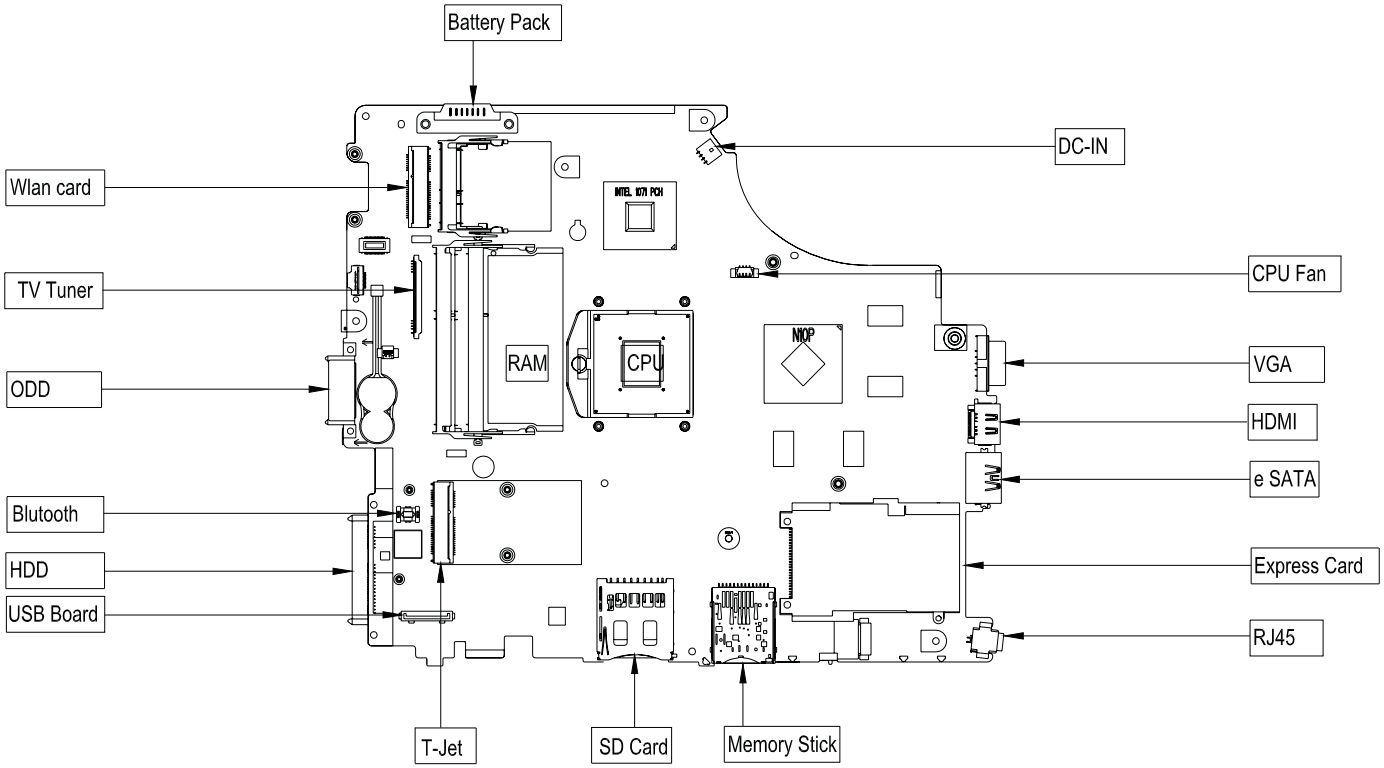
# CHAPTER2.
# FRAME HARNESS DIAGRAM

## 2-1.VPCF1 Series (TOP)

From board to connector (direct connection)

Harness (with connectors on both ends)

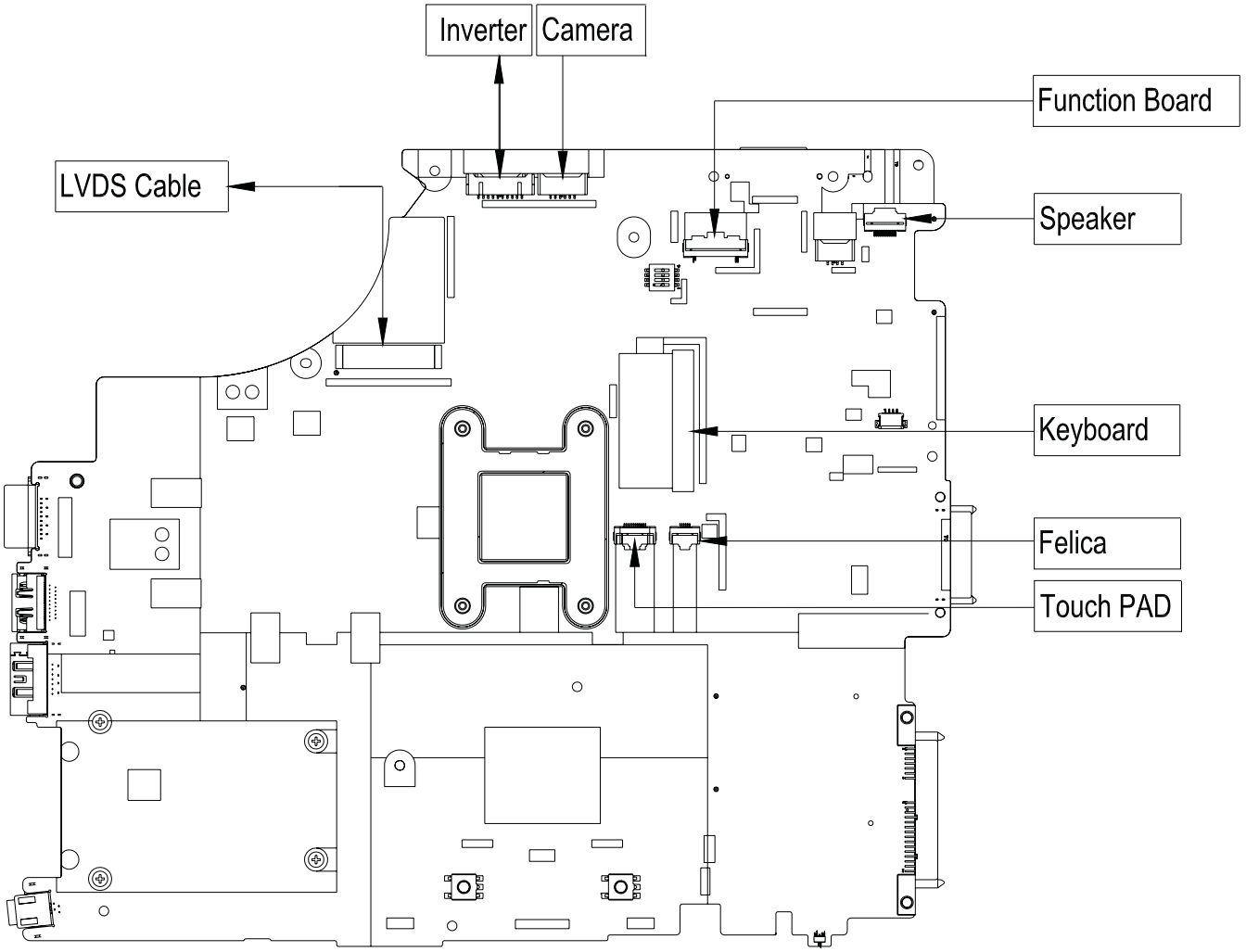
Harness (soldering on either end)






[Sony Confidential]

## 2-2.VPCF1 Series (BOTTOM)



# CHAPTER3.
# EXPLODED VIEWS AND PARTS LIST

· The parts list is compiled by blocks of a Palmrest and bottom etc.
The sections of the parts list are different depending on the model.
Please refer to list of contents shown.


**Section** **Page**

**Note**..... 3-2
**Screws**
S-1.Screws..... 3-3
**Palmrest**
P-1.Palmrest..... 3-4
**Main Board**
M-1.Main Board ..... 3-5
**Bottom**
B-1.Bottom..... 3-6
**Cabinet Cover**
C-1.Cabinet Cover..... 3-7
**ODD**
D-1.ODD..... 3-8
**HDD**
H-1.HDD..... 3-9
**LCD**
L-1.LCD..... 3-10
**Accessories**
A-1.Accessories..... 3-11
**DIP Switch**..... 3-12


• Double-click on the paper clip mark in the Spec column to open the specifications list.
• To open the parts list, Microsoft office Excel or Excel viewer is required.

| | | Palmrest | Main Board | Bottom | ODD | HDD | LCD | Accessories | Spec |
|---|---|---|---|---|---|---|---|---|---|
| J | F127FJ/W | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F128FJ/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F129FJ/BI | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12AFJ* | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12AGJ* | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12AHJ* | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| AM | F120FD/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F120FL/BI | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F121FD/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F121FX/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F121FX/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F121GX/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F122FX/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F122FX/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F123FX/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F123FX/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F125FX/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F125FX/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F126FM/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F127FD/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F127FX/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F127FX/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F129* | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F1290L* | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F1290S* | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12AFM/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| EU | F12C5E* | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12E1E/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12E1E/W | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12E1R/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12M0E/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12M1E/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12M1R/H | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12S1E/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12S1R/B | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12Z1E/BI | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| | F12Z1R/BI | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |
| AO | F127HG/BI | P-1 | M-1 | B-1 | D-1 | H-1 | L-1 | A-1 | |

*: CTO Model

# Note

- Parts List is attached on the upper right portion of each EXPLODED VIEW.
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- The parts marks "$" are the Reuse Parts.
- The parts marks with "&" indicates specific parts handling for Japan region.
  Disregard "&" marking for other than Japan region.
- Color after description in [ ] shows color variation name of the main body.
- The model that is accompanied by asterisk (*) is the CTO model.
- When replacing the HDD of RAID setting, please exchange to the same HDD that was installed.

Basically, the parts marked "●" should be used for service.
The parts marked "□" in the parts list are substitution parts.
If the part marked "●" is not available, you can order the parts marked "□", but it may not be stocked.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

**The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.**

- If there is the Remarks column in the parts list, the features of applicable models are indicated in it for the parts that are different depending on each model.
  For the abbreviations used in the remarks column, please refer to the <table 1>.

<table 1>

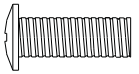
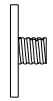
| Full-Name | Short-Name |
|---|---|
| Bluetooth | BT |
| Felica | Felica |
| Wireless WAN | WAN |
| Wireless LAN | WLAN |
| 1seg Tuner | 1seg |
| Finger Print Sensor | FP |
| Security Chip | TPM |
| Flash Memory | F Mem |
| Camera | Camera |

- If "No-" is described on the left side of the Short-Name, it means 'not equipped'.
  Example: "No-BT" "No-Felica" etc.
- When several descriptions are listed, each description is separated with ", (comma)" or "or". "Comma" means plus.
  Example.1: The parts for the model equipped with BT and Felica and WLAN →BT, Felica, WLAN
  Example.2: The parts for the model equipped with BT or Felica →BT or Felica
- If the color is in the remarks column, it indicates the color of parts itself.

# S-1. Screws

**Parts List**

- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.

| B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 |
|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  | |
| M2*L2 | M2*L2.5 | M2*L3 | M2*L5 | M2*L8 | M2*L12 | M3*L8 | I2*L2 | M3*L3 |
| Black | Silver | Black | Black | Black | Black | Black | Silver | Silver |

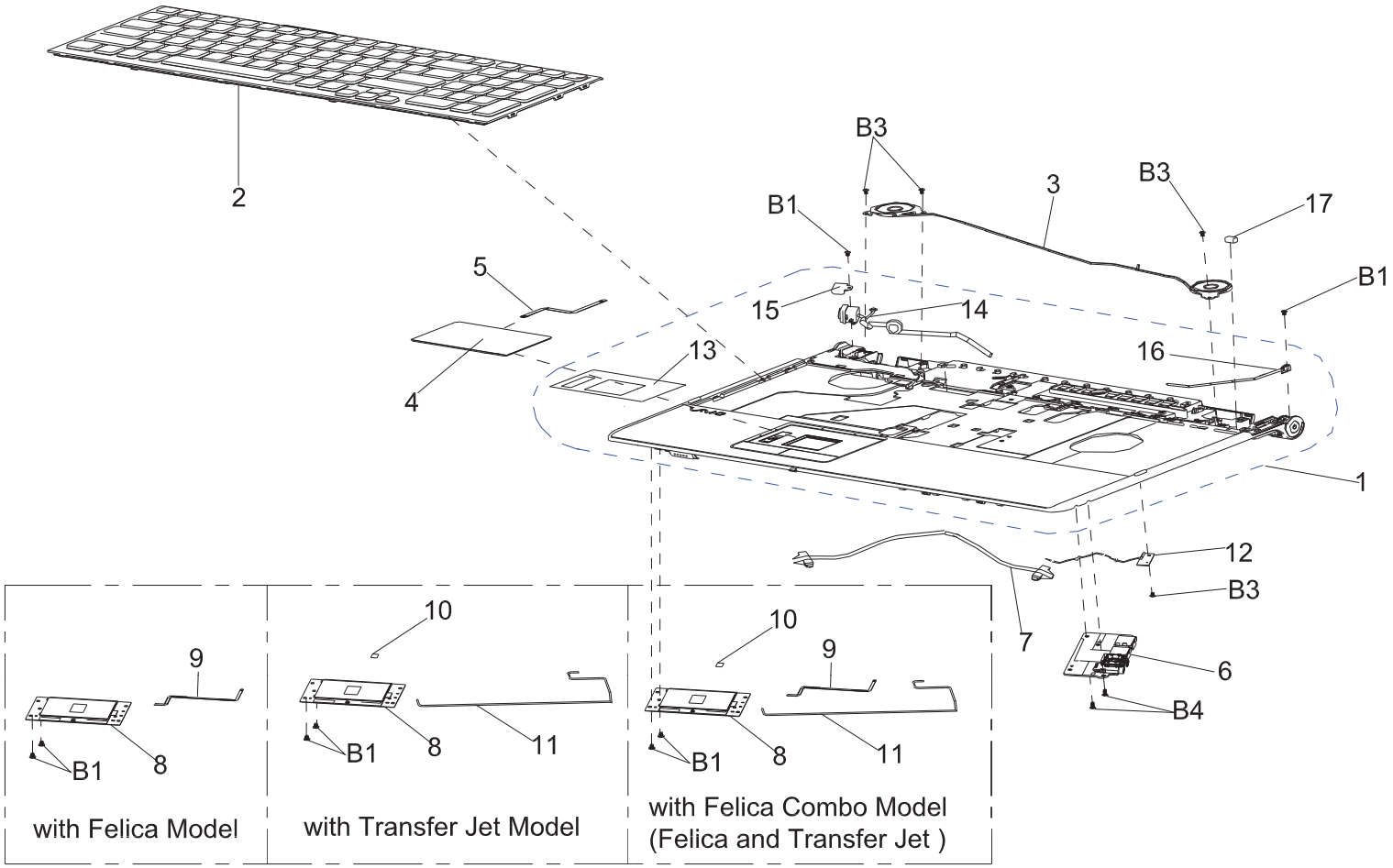


[Sony Confidential]

# P-1. Palmrest

**Parts List**

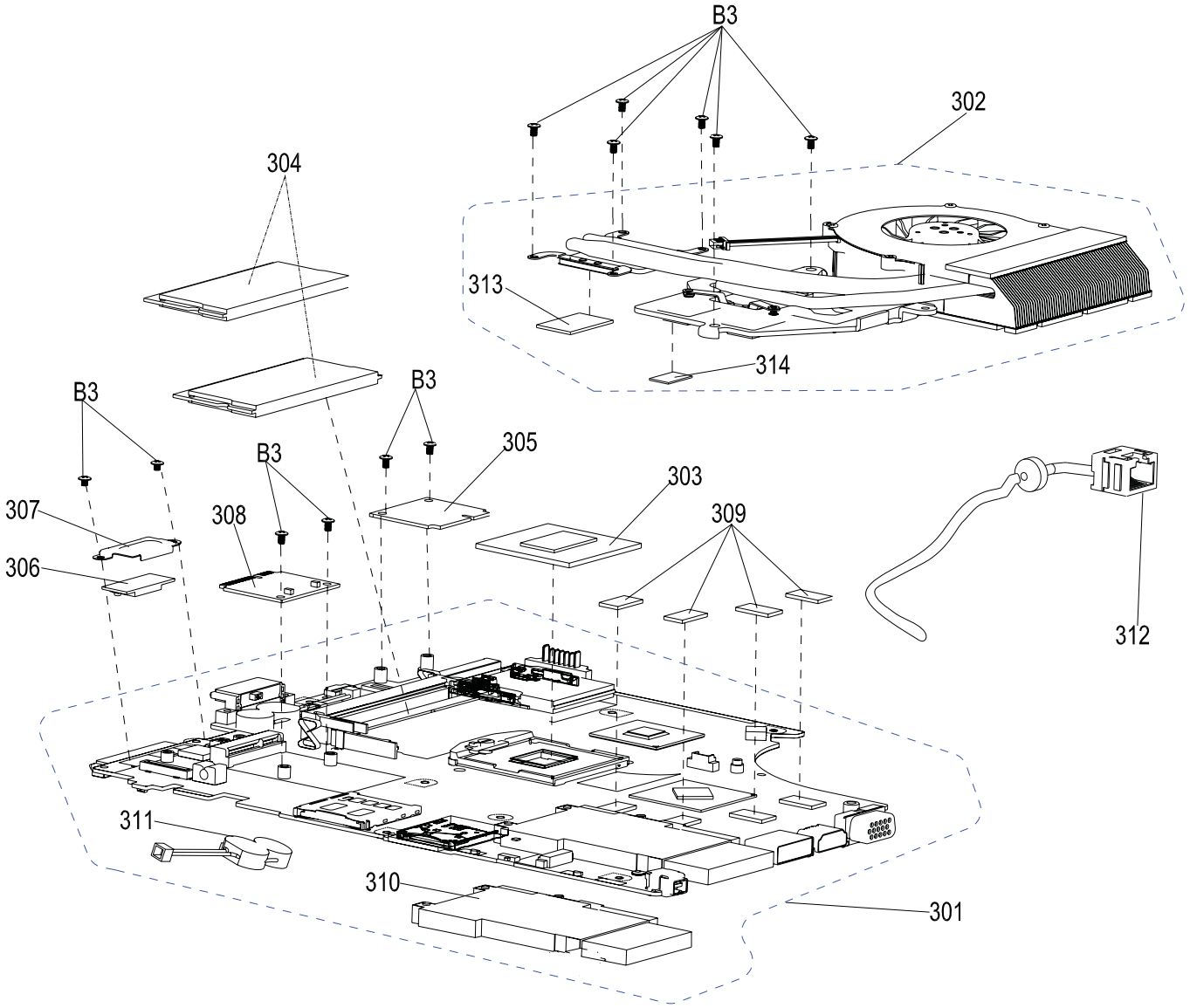
- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.



# M-1. Main Board

**Parts List**

- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.



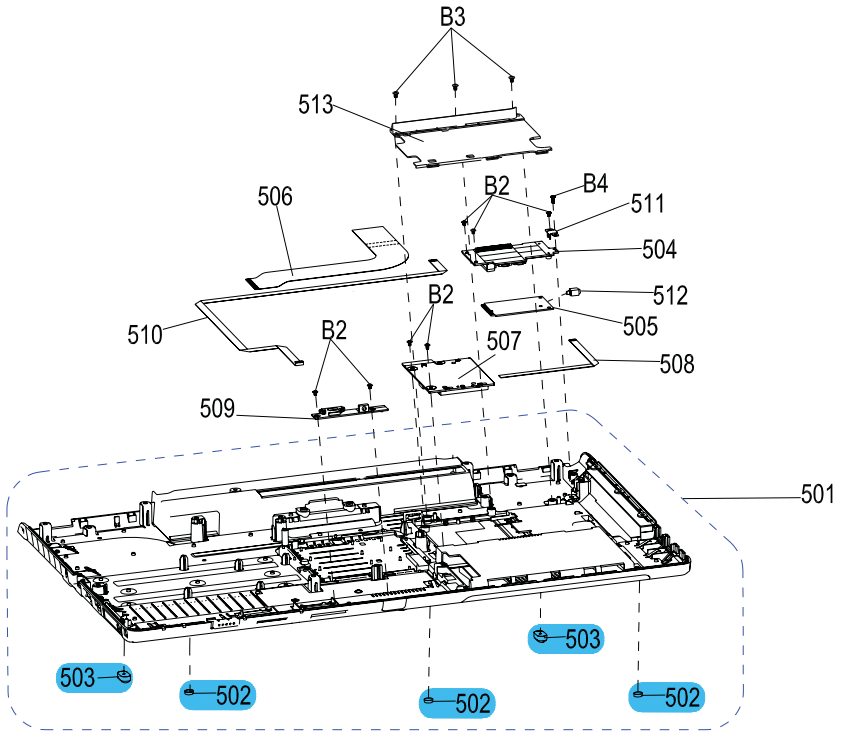



[Sony Confidential]

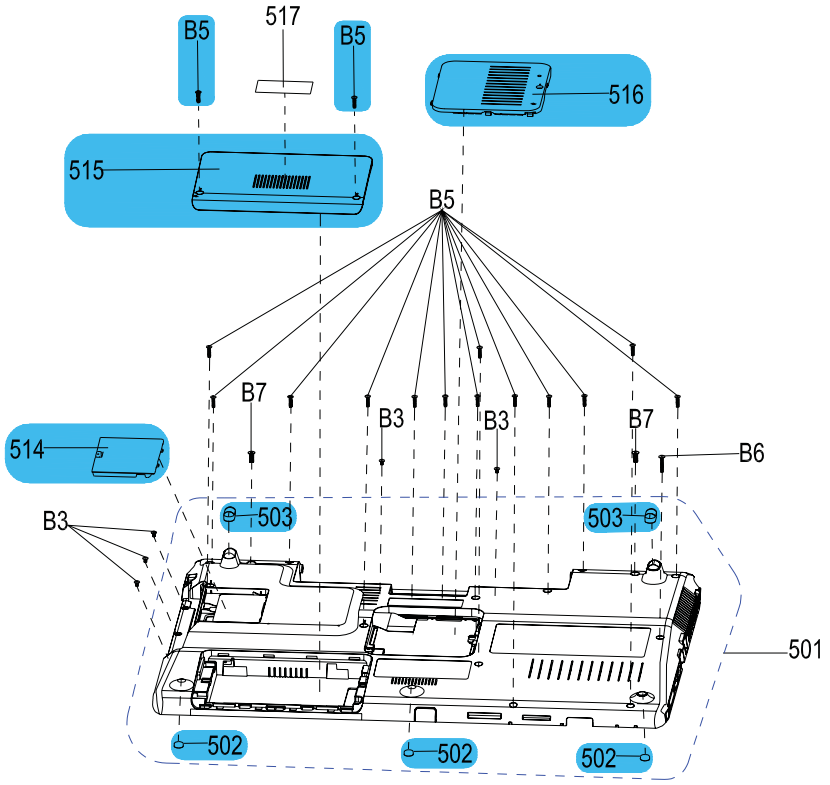
# B-1. Bottom

**Parts List**

- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.




TOP VIEW




BOTTOM VIEW

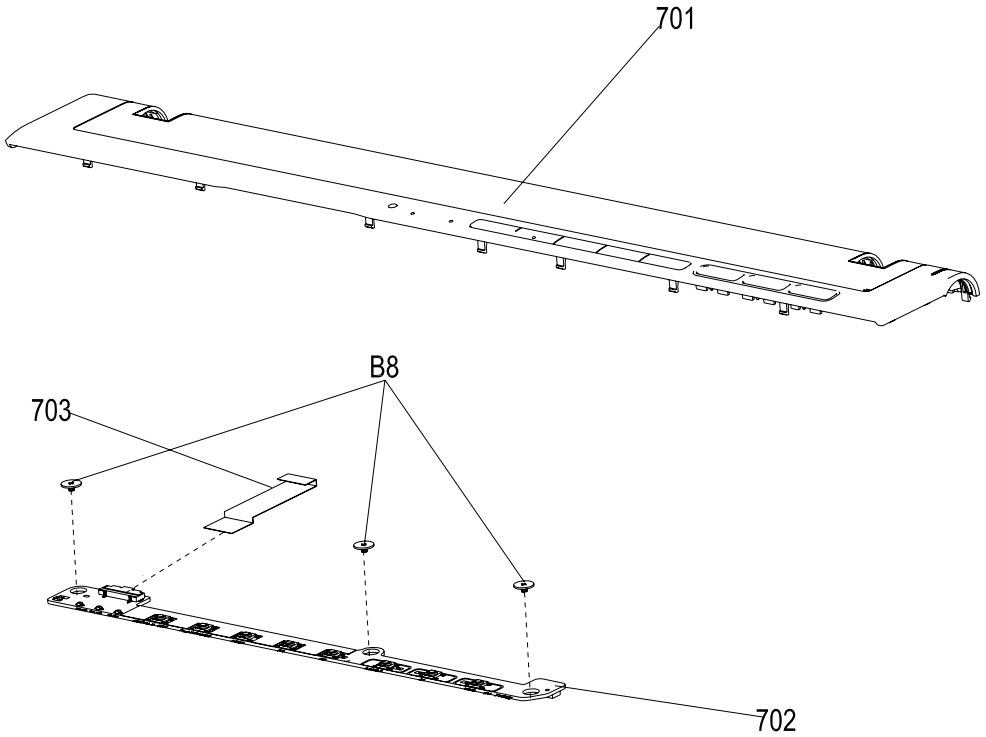


[Sony Confidential]

# C-1. Cabinet Cover

**Parts List**

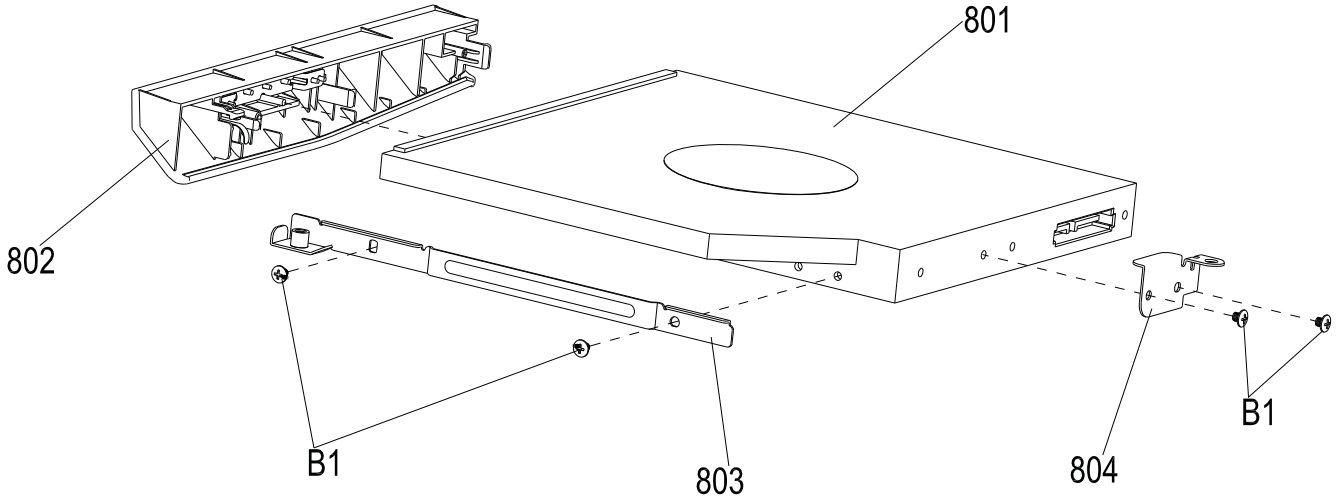
- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.



# D-1. ODD

**Parts List**

- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.



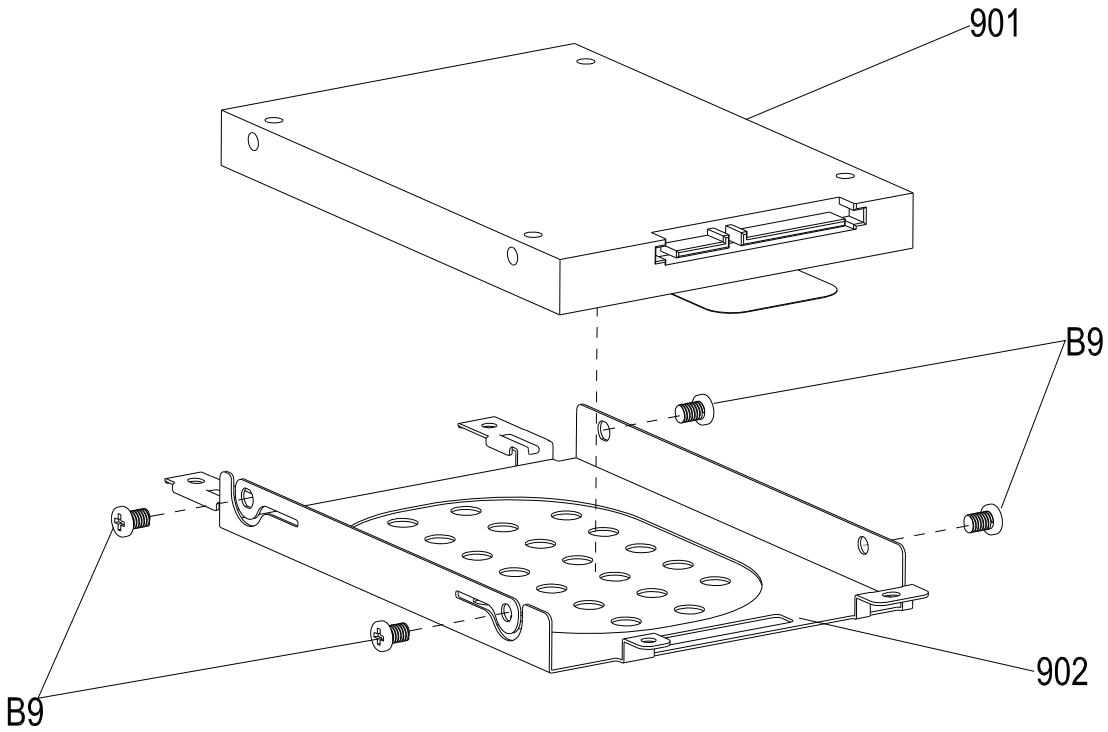



[Sony Confidential]

# H-1. HDD

**Parts List**

- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.



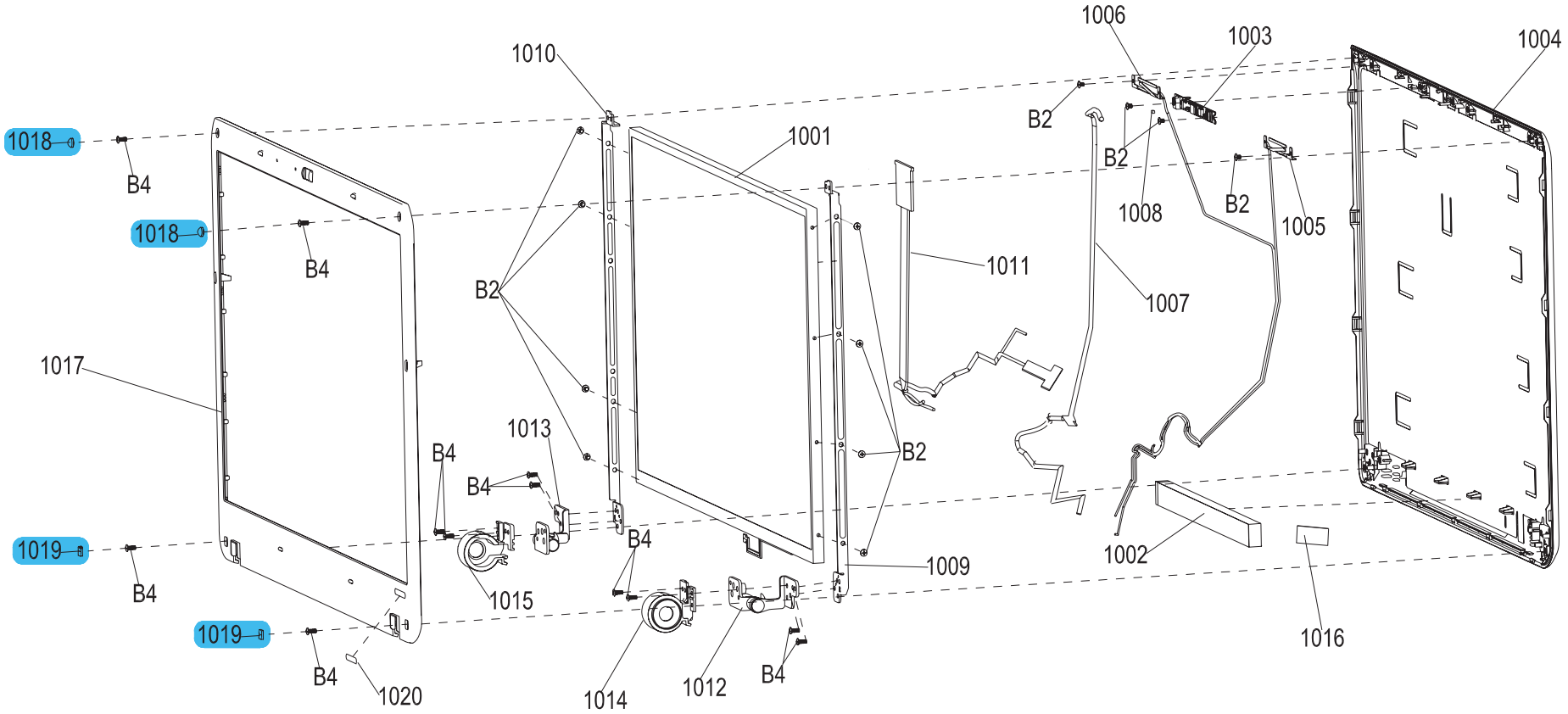



[Sony Confidential]

# L-1. LCD

**Parts List**

- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.






[Sony Confidential]

# A-1. Accessories

**Parts List**

- Double-click on the paper clip mark to open the parts list.
- To open the parts list, Microsoft office Excel or Excel viewer is required.

2005
Power Cord

2006
AC Adapter

2007
Battery Pack

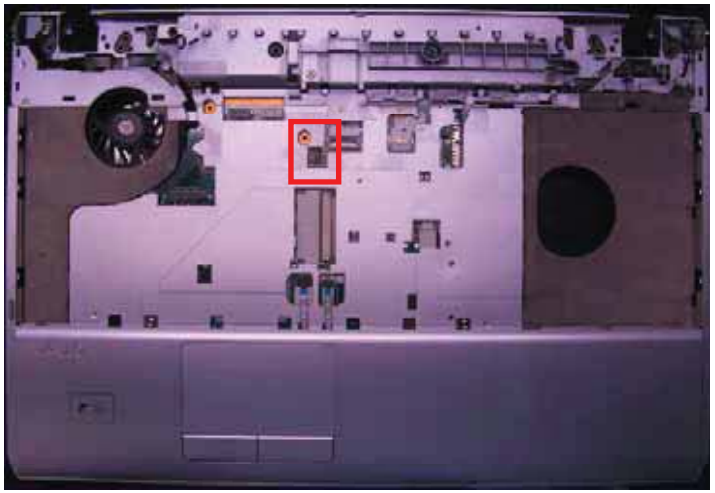
2013
RF External Cable

2014
Remote Commander

[Sony Confidential]

# DIP Switch

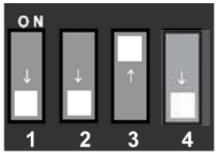
## DIP Switch Location



DIP switch setting is different by the type of LCD.
For setting method, please refer to the table.

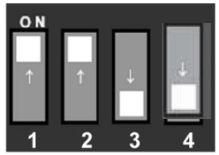
VPCF120FD/F121FD/F121FX/F121GX/F122FX/F123FX/F125FX/F126FM/F129∗/
F1290S∗/F12AFM (AM)
VPCF12C5E∗/F12E1E/F12E1R/H (EU)

16.4/A-HD_HDAR/EEBR (LGD) (A-1707-449-D)



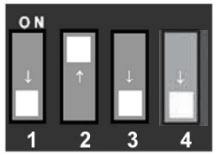

VPCF129FJ/F12AFJ∗/F12AGJ∗/F12AHJ∗ (JP)
VPCF120FL (AM)
VPCF12C5E∗/F12S1E/F12Z1E/F12Z1R (EU)
VPCF127HG (AO)

16.4/Full-HD_HDAR/HC_SlimAdobe_BP (Sharp) (A-1772-658-A)




VPCF127FJ/F128FJ/F12AFJ∗/F12AGJ∗/F12AHJ∗ (JP)
VPCF127FD/F127FX/F129∗/F1290L∗/F1290S∗ (AM)
VPCF12C5E∗/F12M0E/F12M1E/F12M1R/F12S1R (EU)

16.4/A-HD_HDAR/EEBR (Sharp) (A-1772-659-A) (A-1788-514-A)

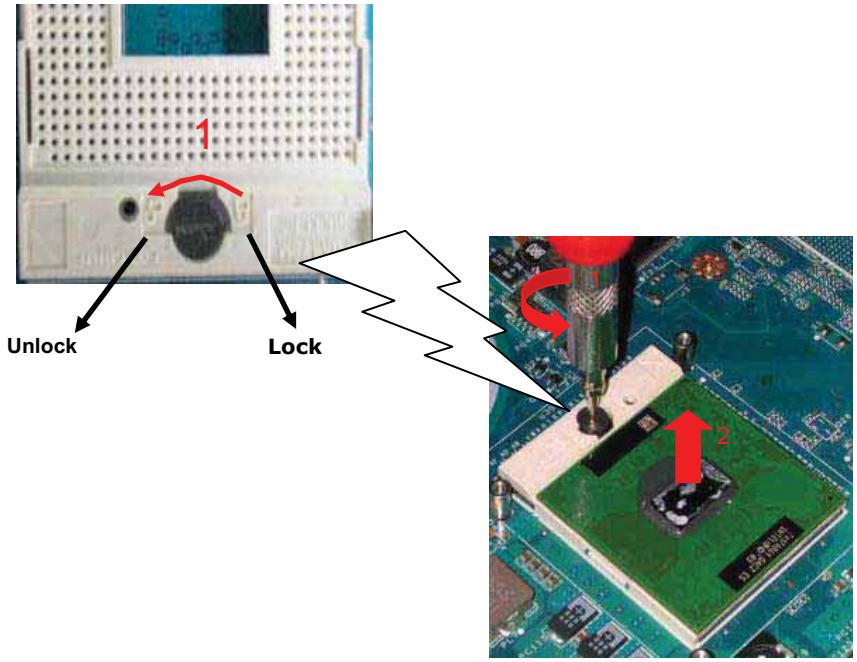


# CHAPTER4.
# OTHERS

## 4-1. Replacing the CPU

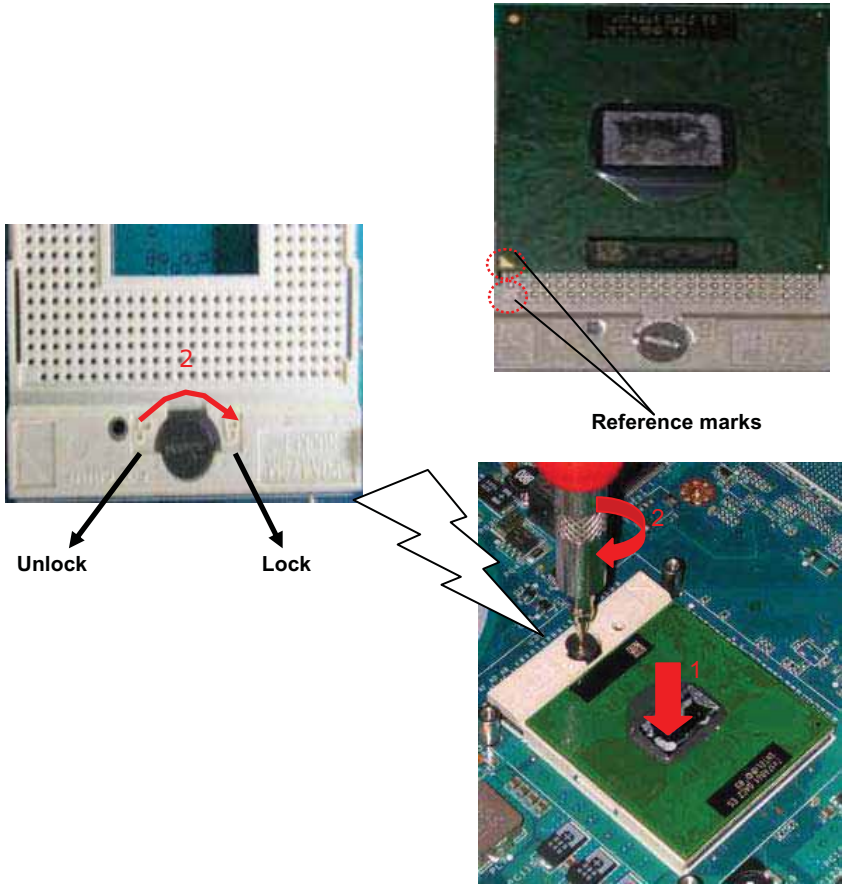
### *1*. Removing the CPU

1. Insert a flat-blade screwdriver into the notch as shown illustration and rotate it so that the protrusion comes to the lock release position.
2. Pull the CPU gently upward to lift it out of the CPU socket




### *2*. Installing the CPU

1. Align the triangle reference mark of the mark the CPU with that of the CPU socket and insert all the pins of the CPU to the corresponding holes of the CPU socket.
2. Insert the flat head (-) screwdriver into the specified position and rotate the screwdriver to the LOCK position.



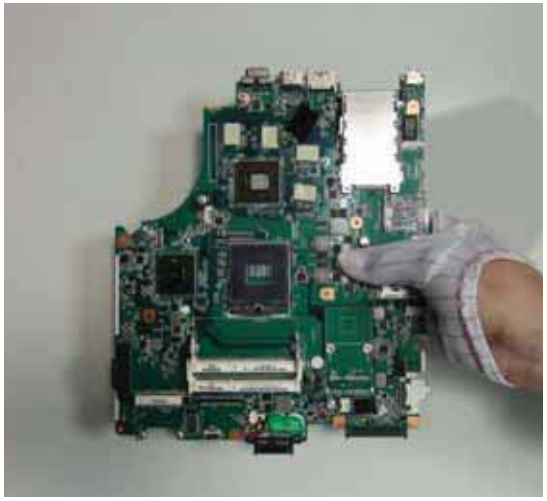



[Sony Confidential]

# 4-2 Holding Method of Motherboard

1. When operating with both hands, gently hold the middle of Main board edge as show.
2. When operating with one-hand, gently hold the middle of Main board edge and keep vertical.

(Level)



(Vertical)

VPCF1 Series (J/AM/EU/AO)

This manual and the constituent data may not be replicated, copied nor reprinted in whole or in part without prior written authorization of Sony Corporation

English
2011LF00-1
© 2011 Sony Corporation
Published by Sony Corporation VAIO & Mobile Business Group
CS & Quality Div. VAIO Global CS Dept.

9-890-802-06

# Revision History

| Suffix | Ver. | Date | Contents | QM No. |
|---|---|---|---|---|
| -01 | Ver.1 | 2010.06.01 | First Edition | |
| -02 | Ver.2 | 2010.07.02 | [ADD][CHG][DEL] Page3-4 Page3-6 Page3-11 | |
| -03 | Ver.3 | 2010.09.02 | [ADD][CHG][DEL] Page3-1, Page3-4, Page3-5, Page3-6,Page3-9, Page3-11 | |
| -04 | Ver.4 | 2010.10.15 | [ADD] Page3-6 Page3-11 | |
| -05 | Ver.5 | 2011.03.04 | [ADD][DEL] Page3-4, Page3-5, Page3-8,Page3-10, Page3-11 | |
| -06 | Ver.6 | 2011.12.12 | [ADD][DEL][CHG] Page3-4, Page3-5, Page3-10, Page3-11 | |
| | | | | |
| <Remarks> | | | | |



[Sony Confidential]